

Project Specifications: LC Emergency Homeless Shelter

Section 02831 – Chain Link Fences and Gates

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SECTION 02831

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CHAIN LINK FENCES AND GATES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and General Provisions of Contract, including General Conditions and other Division 1 Specification Sections, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK

- A. PVC coated Fence fabric posts; rails, tension components and fittings for all perimeter site fencing.
- B. Aluminized mesh with galvanized posts, rails, tension components and fittings for all chain link.
- C. Excavation for post bases.
- D. Concrete anchorage for posts.

1.03 RELATED WORK

- A. Section 02930: Topsoiling and Seeding.
- B. Section 03300: Cast-In-Place Concrete.

1.04 WORK EXCLUDED

- A. Temporary Construction Fence.

1.05 ERECTOR QUALIFICATIONS

- A. Minimum of two years of experience installing similar fencing.

1.06 REFERENCES

- A. Chain Link Fence Manufacturers Institute (CLFMI) and ASTM F567 - Standard of chain link fence installation.
- B. ASTM A120 - Black and hot dip zinc coated (galvanized) welded and seamless steel pipe.
- C. ASTM A123 - Hardware (hot-galvanized coatings on products fabricated from rolled, pressed and forged steel shapes, bars, and strip).
- D. ASTM C94 - Ready-mixed concrete.

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E. ASTM A491 - Aluminum coating of chain link fabric (steel core wire).

F. ASTM F668 - PVC coated steel chain link fabric, class 2B

1.07 SHOP DRAWINGS AND PRODUCT DATA

A. Submit shop drawings and product data in accordance with Section 01340.

B. Clearly indicate plan layout, grid, spacing of components, accessories, fitments, and anchorage.

C. Submit manufacturer's installation instructions and procedures including standard details of fence and gate installation.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Anchor Fence, Inc.

B. Sonco Fence, Inc.

C. Cyclone Fence

D. Allied Tube and Conduit (Fence Division)

E. Other domestic manufacturers meeting the requirements of this Section.

2.02 MATERIALS

A. Site Fencing

1. Framework: Thermally fused PVC coated, sizes as indicated.

2. Mesh: Thermally fused PVC coated chain link fabric "Standard Industrial" type as indicated.

2.03 CONCRETE MIX

A. Concrete: ASTM C94, normal Portland Cement, 2000 psi at 28 days, 2 inch to 3 inch slump.

2.04 FENCE COMPONENTS

A. Gate Posts:

1. Posts for swing gates shall be of the following nominal sizes for single swing gates or one leaf each of double gates:

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- a. Gates up to 6' wide shall be 3.00" O. D.
 - b. Gates over 6' to 13' wide shall be 4.0" O. D. @ 9.11 pounds
 - c. Gates over 13' to 18' wide shall be 6.625" O. D. @ 18.97 pounds
 - d. Gates over 18' wide shall be 8.625" O. D. @ 28.55 pounds
- B. Top Rail:
 1. Top rail for 72" fabric shall be 1.66" O. D.
 2. Top rail for 48" fabric shall be 1-5/8" O. D.
- C. Braces: Brace material shall be same as top rail.
- D. Fabric: Shall be one or more of the following based upon fence height shown on the Drawings.
 1. 48 inches high: One piece of 9-gauge wire woven in a 2-inch chain link diamond mesh pattern. Top and bottom selvage shall have a knuckled finish.
 2. 72 inches high: One piece of 9-gauge wire woven in a 2-inch chain link diamond mesh pattern. Top and bottom selvage shall have a knuckled finish.
- E. Fabric Connections:
 1. Fabric shall be securely fastened to all terminal, corner, and gateposts by 1/4 x 3/4 inch tension bars with 11-gauge pressed steel bands.
 2. Fabric shall be securely fastened to all line posts with .062 by .375 self-locking line post fabric.
 3. Fabric shall be securely fastened to top rail with .062 by .375 self-locking line post fabric.
- F. Line Posts: Shall be one or more of the following:
 1. All intermediate line posts for 72-inch fabric shall be 1.9" O. D.
 2. All intermediate line posts for 48-inch fabric shall be 2.00" O. D.
 3. All posts shall be equipped with tops designed to exclude moisture and to hold top rail.
- G. Terminal Posts:

All end, corner, and pull posts shall be 3.00" O. D. with tops designed to exclude moisture and to hold top rail.
- H. Pipe and Fittings:

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1. All pipes shall be standard weight steel, A.S.A. Schedule 40, of domestic manufacture of sizes and weights specified, or Allied SS-40.
2. Fittings: All fittings used in the complete fence assembly shall be of malleable cast iron or pressed steel.

I. Gates:

1. Gates shall be of size and at locations as indicated on the Drawings, complete with latches, stops, keepers and hinges.
2. Frames shall be 1.9" O. D. pipe per linear foot with heavy malleable iron or pressed steel corner fittings securely fastened to provide a rigid frame of ample strength free from sag and twist. Each frame shall be equipped with 3/8-inch diameter adjustable truss rods.
3. Fabric, to match the fence, shall be installed in the frame by means of tension bars and hook bolted at intervals not exceeding 14 inches.
4. Hinges shall be of bearing pattern, of adequate strength for gate, and with large bearing surfaces for fastening in position. The hinges shall not twist or turn under the action of the gate. The gates shall be capable of being opened and closed easily by one person and swing 180 degrees.
5. Malleable iron latches for single-swing gates shall be guillotine-type designed to prevent the gate from opening in the wrong direction.
6. Locking device for double-swing gates shall consist of fulcrum-type latch, a center drop rod, a center gate stop, and two semi-automatic holdbacks (set in concrete).

2.05 FINISH

- A. Color for manufacturers standard PVC coating, thermally fused, ASTM class 2B to be selected by architect from manufacturer's standard range of color options which must include a minimum of six (6) options.

PART 3 - EXECUTION

3.01 GENERAL:

- A. Install line posts, corner posts, top rails, post caps, wire fabric and gates to provide a rigid structure for fence heights of 48", or 72" as indicated on the Drawings. Note: Unless otherwise indicated on the Drawings, all perimeter site fencing shall be 6' high.

3.02 POST SETTINGS:

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- A. All posts shall be of sufficient length to provide a minimum 36" setting into concrete footing. Top of footing shall be crowned in order to shed water.
- B. Footing diameters shall be as follows:
 - 1. Line posts: 10" minimum
 - 2. Terminal posts: 12" minimum
 - 3. Gate posts: a minimum of 3 times wider than the post diameter.
- C. Footings shall consist of 1-2-4 concrete mix.

3.03 TOP RAILS

- A. Provide couplings approximately every 20 feet.
- B. Top rails shall pass through intermediate line post tops and shall form a continuous brace from end to end of each stretch of fence. Fasten to corner posts using heavy pressed steel connections.

3.04 BRACES

- A. Brace material shall be installed midway between top rail and ground, and shall extend from corner, end, pull and gateposts to the first adjacent line post. Securely fasten to posts using heavy pressed steel connections. Truss from line post back to terminal or gateposts with 3/8" diameter rod and turnbuckle.

3.05 LINE POSTS

- A. All posts shall be evenly spaced, 10 feet on center maximum.

3.06 WIRE FABRIC

- A. Position bottom of fabric approximately 2" above finish grade with tension wire stretched tight between posts.
- B. Fasten fabric to top rail, line posts, braces, and bottom tension wire with ties spaced 14" on center maximum.
- C. Fasten fabric to top rail with ties spaced 24" on center maximum.
- D. Attach fabric to ends and corners with tension bars and bar clips.
- E. Stretch fabric between terminal posts, or at intervals of 100 feet maximum, whichever is the least dimension.

3.07 CLEAN UP

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- A. Remove all trash, debris and excess materials associated with the work from the job site and dispose of legally.

END OF SECTION